

Notice of Allowability

Application No.

10/707,211

Examiner

Jimmy T. Vu

Applicant(s)

LONDRE, DALE A.

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 06/18/07.
2. ☒ The allowed claim(s) is/are 1,4-9,11,15-20,22-24,26,29,30,32,35-39 and 41-43.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

Allowable Subject Matter

1. Claims 1, 4-9, 11, 15-20, 22-24, 26, 29, 30, 32, 35-39, 41, 42 and 43 are allowed.
2. The following is an examiner's statement of reasons for allowance:

Neither the cited references nor the references cited teaches or suggests or obvious in combination of a subarray beamformer and method of forming a multi-beam phased array antenna, particularly, "a third beamforming layer having a third plurality of combiners in a third orientation and combining a third set of signals to form a fourth set of signals; and a fourth beamforming layer having a fourth plurality of combiners in a fourth orientation coupled to and opposing said third plurality of combiners, said fourth plurality of combiners combining said fourth set of signals to form at least one second combined signal" (claims 1, 23, 35, 37, 41), "a fourth beamforming layer having a fourth plurality of dividers in a fourth orientation and dividing at least one second combined signal to form a fourth set of signals; and a third beamforming layer having a third plurality of dividers in a third orientation coupled to and opposing said fourth plurality of dividers, said third plurality of dividers dividing said fourth set of signals to form a third set of signals" (claims 29, 42, 43), and "coupling a plurality of tile elements between said plurality of radiating elements and said beamforming board and within said common structure" (claim 39).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

3. The prior art made of record and relied upon is considered pertinent to applicant's disclosure. The best consider with this application can be filed in Cherrette (5,293,171), Speciale (U.S. Patent 5,512,906), and Timofeev (U.S. Patent 6,239,764 B1).

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy T Vu whose telephone number is (571) 272-1832. The examiner can normally be reached on M - F: 9 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W. Owens can be reached on (571) 272-1662. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2800.

Jimmy Vu

July 05, 2007

Douglas W. Owens 7/6/07

**DOUGLAS W. OWENS
SUPERVISORY PATENT EXAMINER**